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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,264	06/24/2003	Yusong Yin	267-33	8008

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EXAMINER

FLORES RUIZ, DELMA R

ART UNIT PAPER NUMBER

2828

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/603,264

Applicant(s)

YIN ET AL.

Examiner

Delma R. Flores Ruiz

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 26 - 28 is/are rejected.
- 7) ☒ Claim(s) 22-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Figure 3, character 5. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 8 – 28 have been renumbered 7 – 27.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 10, 14, 21, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Baer (5,271,031).

Regarding claim 1 Baer discloses a side pumped laser comprising; a laser cavity formed a first (see Fig. 2, Character 14) and second (see Fig. 2, Character 16)

reflective surface, said laser cavity having an optical axis (see Fig. 2) ; one or more lasing rod (reference "block", see Fig. 2, Character 12, Column 1, Lines 54 –58 and Column 4, Lines 42 – 45); a plurality of diode bars (see Fig. 2 Character 24) having radiation outlet in optical communication with each lasing rod for supplying electromagnetic radiation (said limitation only recites facts and features that are well known and expected, the same features that essentially result from the use or application of a diode bars supplying electromagnetic radiation , and therefore said limitations are said to be inherently disclosed in the teachings of Baer) to the said rod; said electromagnetic radiation propagating through said lasing rod on plurality of substantially nonintersecting paths; said paths traveling said lasing rod substantially perpendicular to the direction of propagation of energy in the laser cavity (see Fig. 2).

Regarding claim 2, Baer discloses a laser is a high energy pulsed laser (said limitation only recites facts and features that are well known and expected, the same features that essentially result from the use or application of a laser is a high energy pulsed laser, and therefore said limitations are said to be inherently disclosed in the teachings of Bear).

Regarding claims 3, 5, 6 and 8, Baer discloses a plurality of diode bars consists of six, nine or eighteen or more diode bars (see Fig. 2, Character 24) and said plurality

of substantially nonintersecting path corresponds to the number of diode bars (see Fig. 2).

Regarding claim 4, Baer discloses a rod (reference "block") is cylindrical (see Fig. 2, Character 12).

Regarding claims 9 and 10, Baer discloses a bars (see Fig. 2, Character 24) are oriented around the periphery of said lasing rod (see Fig. 2 Character 12) and bars are oriented symmetrically around the periphery of said lasing rod (see Fig. 2).

Regarding claim 14, Baer discloses a lasing rod is Nd: YAG (Column 4, Lines 43 – 45).

Regarding claims 21, 26, Baer discloses a bars are located along substantially the entire length of the lasing rod and single lasing rod is located within said cavity (see Fig. 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11 – 13 and 15 – 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baer (5,271,031) in view of Early et al (6,676,402).

Regarding claim 11, Baer discloses the claimed invention except for lasing rod is Nd:YLF. It would have been obvious at the time of applicant's invention, to combine Early of teaching a lasing rod is Nd:YLF with side pumped laser because It would have been obvious to one having ordinary skill in the art at the time the invention was made to lasing rod is Nd:YLF (Column 6, Lines 4 – 43), since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ416.

Regarding claim 12, 13, and 15 – 16, Baer discloses the claimed invention except for lasing rod has a length of 70 mm, 90 mm or greater. It would have been obvious at the time of applicant's invention, to combine Early of teaching a lasing rod

has a length of 70 mm, 90 mm or greater with side pumped layer because It would have been obvious to one of ordinary skill in the art at the time the invention was made to lasing rod has a length of 70 mm, 90 mm or greater, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Claims 17 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bear (5,271,031) in view of Zhang (6,873,639).

Regarding claims 17 – 20 are discloses the claimed invention except for side pumped laser comprising a harmonic crystal located in said cavity to produce a harmonic beam and a second, third and four harmonic crystal located in said cavity to produce second, third, and four harmonic beam. It would have been obvious at the time of applicant's invention, to combine Zhang of teaching a side pumped laser comprising a harmonic crystal located in said cavity to produce a harmonic beam and a second, third and four harmonic crystal located in said cavity to produce second, third, and four harmonic beam with side pumped laser because On the basic of the above SHG technology, third and fourth harmonic generation (THG and FHG) by use of the two or three nonlinear crystals positioned serially can be applied to directly produce high-power, energy (Column 39, Lines 17 – 20).

Claims 27 – 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baer (5,271,031) in view of Tsunekane et al (6,822,985).

Regarding claims 27 – 28, Baer discloses the claimed invention except for two or more lasing rod are located within said cavity. It would have been obvious at the time of applicant's invention, to combine Tsunekane of teaching a two or more lasing rod are located within said cavity with side pumped laser because it would have been obvious to one having ordinary skill in the art at the time the invention was made to two or more lasing rod within said cavity (see Fig. 10 Character 10, 11, 12, Column 19, Lines 20 – 48) , since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Allowable Subject Matter

Claims 22 – 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delma R. Flores Ruiz whose telephone number is (571) 272-1940. The examiner can normally be reached on M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Sun Harvey can be reached on (571) -272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Delma R. Flores Ruiz
Examiner
Art Unit 2828
DRFR/ MH
April 28, 2005



Min Sun Harvey
Supervisor Patent Examiner
Art Unit 2828